Regression Results for Change in Office Space

We regressed the expected growth rate in each firm's floor space needs on: (A) the most recent value (in the past three months) of its expected employment or sales growth rate and (B) the share of its employees working from home (WFH) most of the time in June 2020.

	Yi = const + βi*Xi						Yi = const + β1i*X1i + β2i*WFHi			
	Unweighted	Weighted	Unweighted	Weighted	Unweighted	Weighted	Unweighted	Weighted	Unweighted	Weighted
Expected employment growth	0.235***	0.117**					0.199**	0.134**		
	(0.0798)	(0.0577)					(0.0780)	(0.0575)		
Expected sales growth			0.178**	0.163***					0.197**	0.187***
			(0.0902)	(0.0529)					(0.0883)	(0.0529)
WFH June					-0.0852**	-0.0470*	-0.128***	-0.0701**	-0.135***	-0.0797***
					(0.0349)	(0.0244)	(0.0291)	(0.0278)	(0.0357)	(0.0287)
Constant	-1.743*	0.286	-2.030*	1.064	-0.462	1.243*	1.747	1.495*	1.620	2.550***
	(0.979)	(0.723)	(1.214)	(0.717)	(1.547)	(0.738)	(1.239)	(0.863)	(1.531)	(0.888)
Observations	303	290	296	282	390	374	303	290	296	282
R-squared	0.028	0.014	0.013	0.033	0.015	0.010	0.087	0.035	0.059	0.059

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Explanatory variables (A) derive from responses to core SBU questions that elicit a firm's subjective probability distribution over future sales and employment outcomes at a one-year look-ahead horizon. The share of employees currently working at home most of the time ("WFH June") is from responses to a special question in the June 2020 SBU.

We measure expected growth rates as arc percentage changes,

$$\mathrm{E}_t g_{i,t+12} = \frac{\mathrm{E}_t X_{i,t+n} - X_{it}}{0.5\left(X_{it} + \mathrm{E}_t X_{i,t+n}\right)},$$

where $\mathrm{E}_t X_{i,t+n}$ denotes the period-*t* expectation of $\mathrm{E}_t X_{i,}$ *n* periods hence, where *n* corresponds to 12 months for employment, four quarters for sales, and the postpandemic outcome for floor space requirements. When survey responses are measured in terms of conventional growth rates, we convert them to arc percentage changes. This growth rate measure is symmetric about zero, bounded between –200 and 200 and equal to log changes up to a second-order Taylor series approximation. Growth rates computed in this manner aggregate exactly when combined with suitable weights, given by the simple mean of initial and (expected) terminal levels. This approach to growth rate measurement and aggregation has become standard in the literature on business-level dynamics (see Davis and Haltiwanger (1999)).

Reference:

Davis, Steven J., and John Haltiwanger. 1999. Gross job flows. In *Handbook of labor economics*, vols. 3 and 4, ed. Orley Ashenfelter and David Card, 2711–2805. New York: Elsevier Science.